

Foreword

"The State of Recycling in South Carolina" report is published annually by the S.C. Department of Health and Environmental Control (DHEC).

The goal of the report is to offer an overview of recycling and waste reduction in the state and provide a useful tool for solid waste directors, recycling coordinators, community leaders, educators and the public.

The report provides the following:

- a statistical summary of recycling efforts in the state;
- an easy comparison of collection figures for recycled commodities; and
- pricing averages for recycled commodities in Fiscal Year 2003 (FY03).

In addition, several areas will be addressed including the fluctuation of tonnages collected among the various commodities, county efforts and a review of recycling trends over the past several years.

"The State of Recycling in South Carolina" was written, edited and designed by DHEC's Office of Solid Waste Reduction and Recycling.

If you are seeking more information than is provided in this publication, please refer to the FY03 S.C. Solid Waste Management Annual Report at www.scdhec.gov.

William W. Culler

William W. Culler, Director

DHEC's Office of Solid Waste Reduction and Recycling



SOUTH CAROLINA

1-800-768-7348

www.scdhec.gov/recycle

Table of Contents

South Carolina Recycling Statistics	2
Executive Summary	5
Commodities	7
Glass	8
Metal	9
Paper	10
Plastic	11
Banned and Miscellaneous Items	12
State Summary	13
County Recycling at a Glance	14
Unique Programs	15
Used Oil Recycling in South Carolina	16
State Agency/College and University Recycling Programs	17
South Carolina's Waste Reduction, Recycling Time Line for FYs 1991-2003	18
DHEC's Office of Solid Waste Reduction and Recycling	20

About This Report...

"The State of Recycling in South Carolina" for FY03 is published by the S.C. Department of Health and Environmental Control's (DHEC) Office of Solid Waste Reduction and Recycling.

Editor: Elizabeth Rosinski

Contributing Writers: Richard Chesley, Gregg Glymph, Eric Melaro, Elizabeth Rosinski and Holly Storey

Statistical Information is provided by Celeste Duckett and Pete Stevens with DHEC's Solid Waste Planning and Compliance Section and the FY03 S.C. Solid Waste Management Annual Report.

Printed June 2004

Total Printing Cost	\$1,416.45
Total Number of Documents Printed	500
Cost Per Unit	\$2.83

This publication is printed
on **RECYCLED** content paper.

South Carolina Recycling Statistics*

FISCAL YEAR (FY) 2003: JULY 1, 2002 – JUNE 30, 2003

S.C. Population 4,107,183

Number of Counties in South Carolina 46

MUNICIPAL SOLID WASTE (MSW) MANAGEMENT

Recycled 1,318,119 tons

Disposed of in Landfills 3,059,022 tons

Incinerated 201,146 tons

Total 4,578,287 tons

MSW RECYCLED

COMMODITY	AMOUNT COLLECTED
-----------	------------------

Glass	9,430 tons
-------------	------------

Metal	507,198 tons
-------------	--------------

Paper	372,526 tons
-------------	--------------

Plastic	16,328 tons
---------------	-------------

Banned Items ¹	308,484 tons
---------------------------------	--------------

Miscellaneous Items ²	104,153 tons
--	--------------

Total	1,318,119 tons
--------------------	-----------------------

1. Banned items include the following: appliances; lead-acid batteries; waste tires; yard waste; and land-clearing debris. While used oil also is a banned item, it is not considered MSW and is measured separately.

2. Miscellaneous items include: antifreeze; consumer electronics; cooking oil; fluorescent bulbs; food waste (post-consumer only); hazardous household materials; latex paint; mattresses; textiles; used oil filters and bottles; wood packaging; other wood (such as furniture and cabinets); and other non-packaging products.

South Carolina's MSW Recycling and Waste Reduction Goals and Rates

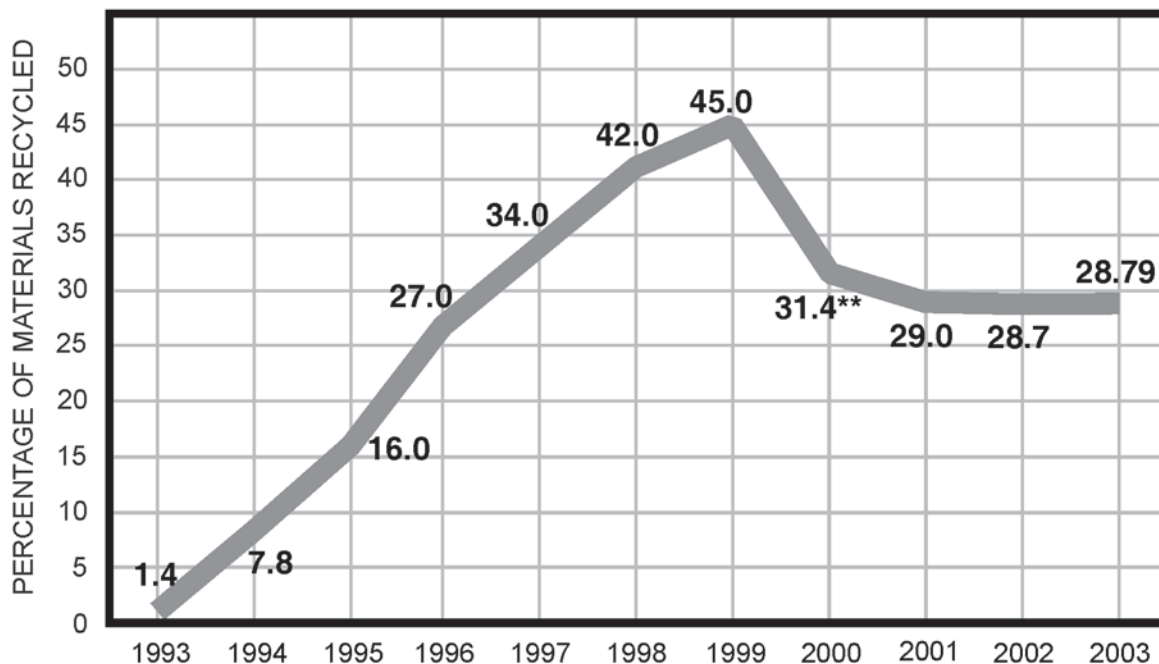
Recycling Goal	35 percent of MSW by FY05
----------------------	----------------------------------

Recycling Rate	28.79 percent for FY03
----------------------	-------------------------------

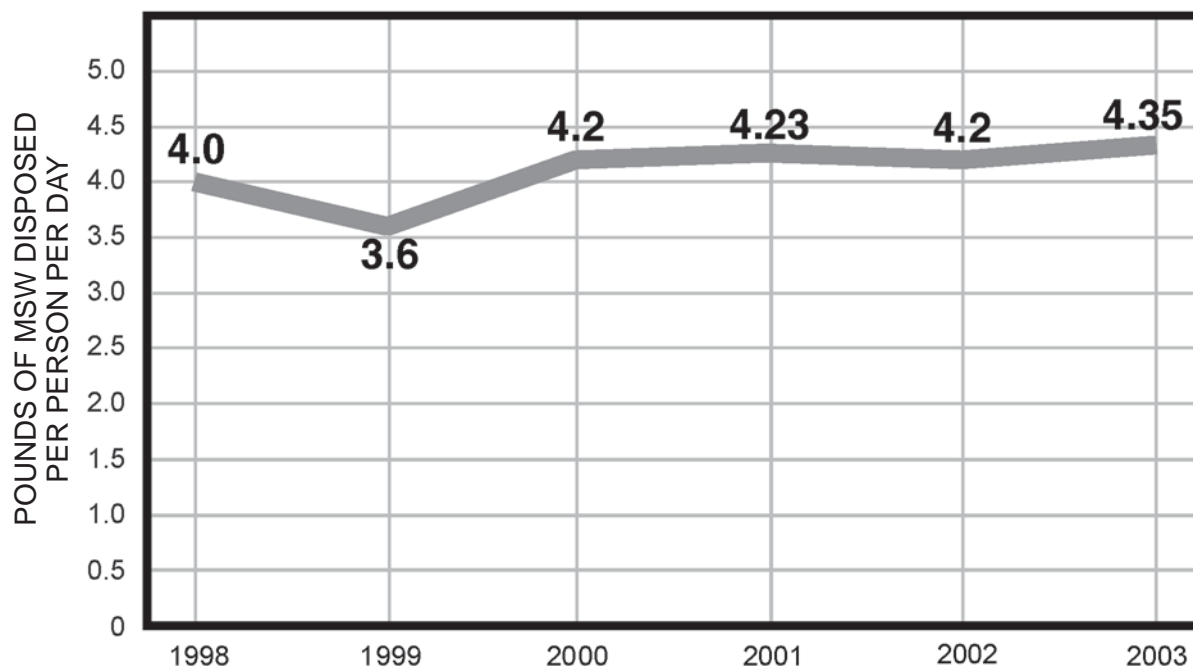
Waste Reduction (Disposal) Goal	3.5 pounds per person per day by FY05
--------------------------------------	--

Waste Reduction (Disposal) Rate ..	4.35 pounds per person per day for FY03
------------------------------------	--

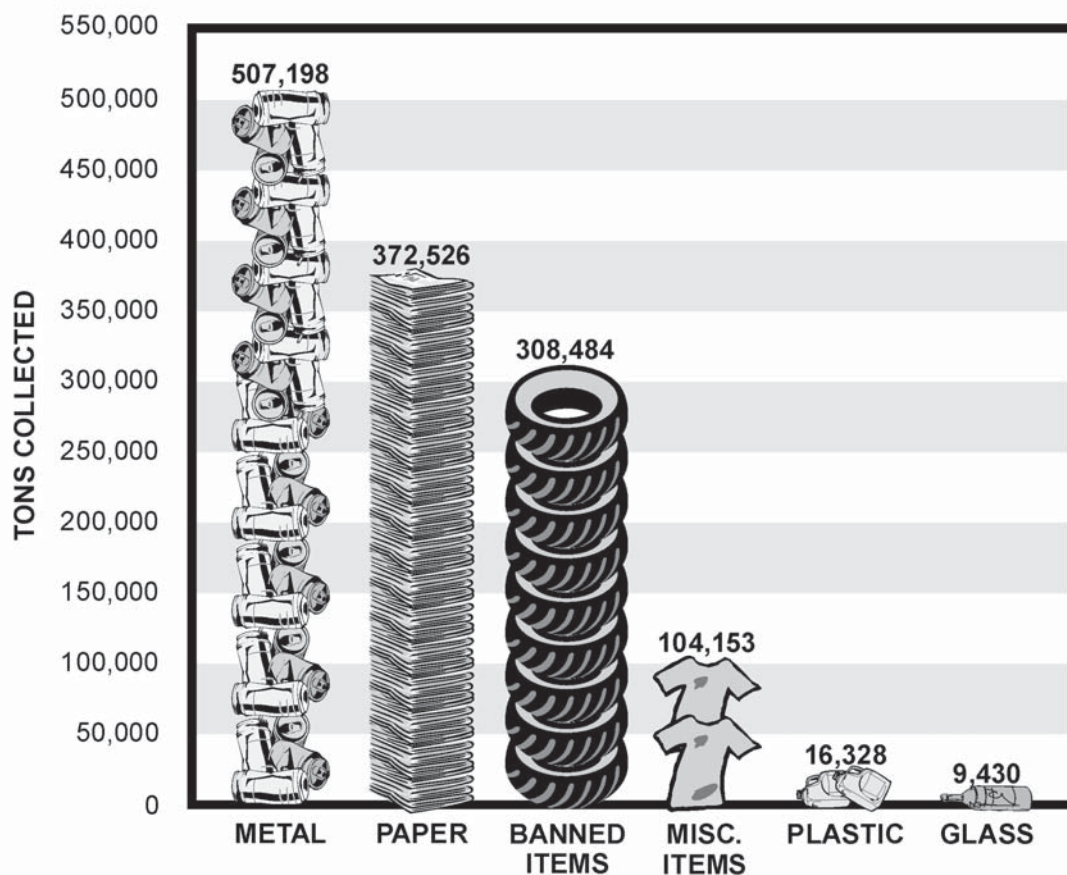
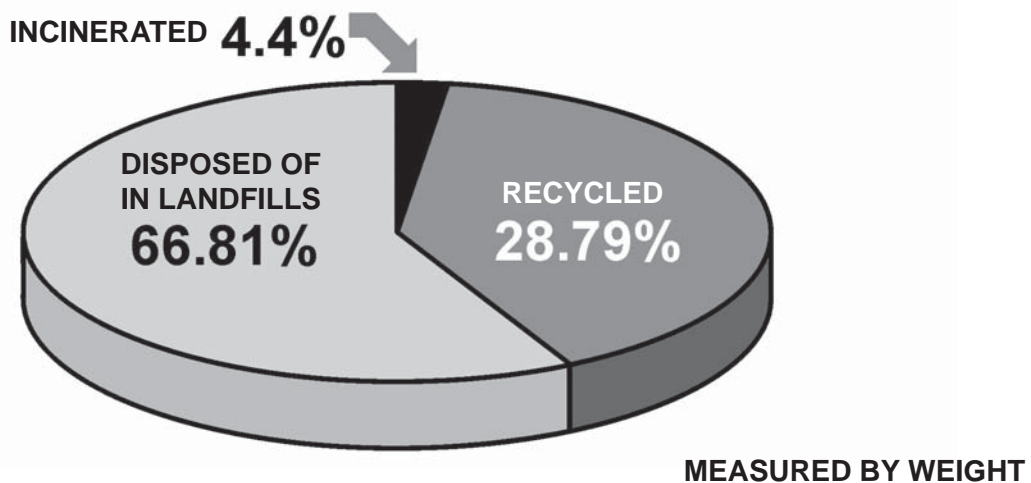
*SOURCE: FY03 S.C. Solid Waste Management Annual Report

CHART A: South Carolina's Recycling Rate*

**** NOTE:** Beginning with FY00, the S.C. Department of Health and Environmental Control adopted the U.S. Environmental Protection Agency's formula for measuring its recycling rate. This new formula includes only municipal solid waste (MSW) and not the total waste stream that had been measured in previous years.

CHART B: MSW Disposed Per South Carolinian Per Day*

*SOURCE: FY03 S.C. Solid Waste Management Annual Report

CHART C: Recyclables Collected in 2003 by Commodity***CHART D: Where does solid waste go in South Carolina?***

*SOURCE: FY03 S.C. Solid Waste Management Annual Report

Executive Summary

South Carolina is approaching the 13th anniversary of the passage of its comprehensive solid waste legislation, also known as the S.C. Solid Waste Policy and Management Act of 1991 (Act). The first several years reflected a steady increase both in tonnages collected and the recycling rate. In contrast, the state's recycling rate has not changed much for the past three years – hovering around 29 percent.

When the Act was passed in 1991, it covered various solid waste issues including setting recycling and waste reduction goals (see the bottom of page 2) as well as requiring local governments to keep track of waste generated and recycled and to report annually to the S.C. Department of Health and Environmental Control (DHEC). In addition, the Act also created DHEC's Office of Solid Waste Reduction and Recycling (Office). The Office is designed to provide technical assistance, education and outreach programs and grant funding to local governments, public schools, colleges and universities and others.

Local programs drive recycling. Fortunately, in South Carolina, many local programs have been developed that are as creative and successful as any in the nation. Many of the state's colleges and universities have first-rate programs. Many of our schools not only teach waste reduction and recycling in the classroom but lead by example with their own programs that involve student participation. Recycling is working in South Carolina.

Recycling, however, appears to have hit a plateau in the state as well as the nation. There are more people. More waste is being made. Many types of waste are difficult to recycle for a variety of reasons. For example, there are more and more types of products made from plastic – just consider the omnipresent single-serve containers that we buy at the convenience store that may not make it to the recycling bin. But because of inefficient recycling programs, unfavorable market conditions and other factors, plastics recycling has plateaued as well.

Managing waste is an on-going proposition, not one that can be checked off as being handled by our community leaders so that they can move on to the next crisis or issue. Proper waste management that incorporates reducing waste whenever possible as well as reusing and recycling is a critical factor in conserving natural resources and maintaining the quality of life experienced in South Carolina.

MSW Defined

The state measures many different kinds of waste, but the recycling rate is measured only from the total amount of municipal solid waste (MSW). MSW is the combined residential, commercial, institutional/non-profit and industrial packaging/administrative waste generated. This includes paper, cans, bottles, food scraps, yard waste, packaging and other items. It does not include industrial pre-consumer process waste like scraps and by-products from the manufacturing process, agricultural waste, mining waste and sewage sludge as well as hazardous, infectious and radioactive waste.

Reporting

The Act requires that county governments report to DHEC the amount of MSW recycled. Counties began reporting in FY93. For FY03, three counties did not report. Their FY02 reports were included by default.



DHEC also receives reports from one MSW incinerator, 18 MSW landfills and several solid waste transfer stations.

South Carolina's Recycling and Waste Reduction Goals

The Act originally set a recycling goal of 25 percent and a goal of reducing by 30 percent the waste disposed of at MSW landfills and incinerators. Both rates were calculated by weight. Both were measured from the total amount of waste generated. Both were measured from a baseline of FY93 and were to be met by FY97. In October 2000, the Act was amended with a goal of recycling 35 percent of the MSW stream and reducing MSW disposal to 3.5 pounds per person per day by 2005. The amendment also redefined MSW.

The amount of MSW generated in FY03 was almost 4.6 million tons. Of that, more than 3 million tons were disposed of in landfills, about 201,000 tons were incinerated and the remaining 1.3 million tons, or 28.79 percent, were recycled. This rate also can be converted to pounds of MSW per person per day (p/p/d). In other words, South Carolinians recycled 1.75 p/p/d, slightly higher than the national average of 1.3 p/p/d (SOURCE: U.S. Environmental Protection Agency 2001 Waste Characterization). The recycling rate reflects little change from FY02 but six points short of the 35 percent recycling goal. In fact, the rate has not changed since FY01.

South Carolinians disposed of 4.35 pounds of MSW per person per day in FY03, slightly up from FY02. This figure is almost one pound more than the waste reduction goal of 3.5 p/p/d.

Overall, eight counties met the recycling goal and 23 counties achieved the waste reduction goal. Only five counties – Kershaw, Lancaster, Lexington, McCormick and Sumter – met both goals. Of the counties that met both goals, the residential material collected for recycling accounted, on average, for only 20 percent

of the total MSW recycled. Other areas including commercial, institutional and office waste from industry significantly contributed to the counties meeting their goals.

It is recognized that industry plays a major role in recycling and waste reduction activities in South Carolina and makes significant contributions to the state's overall rates. By law, they are not required to report their efforts to DHEC. Unfortunately, this leads to some inconsistencies with county recycling rates and whether or not counties are able to meet their goals from year to year.

The Office provides recycling grants to local governments appropriated from the Solid Waste Trust Fund. This funding, however, have been reduced over the past several years due to

statewide budget issues. Considering this, reduced financial support continues to be a concern among recycling coordinators and solid waste directors. Many counties cite that their waste reduction and recycling performance is directly linked to funding the residential programs.

In fact, the residential MSW recycling tonnages have decreased 12 percent from FY02. When grant funds are not available, two negative impacts can and do occur: 1) new

programs or services cannot be added; and 2) if the trend of reduced funding continues, some existing programs or services may be reduced or discontinued. Among the materials dropped by some counties in FY03 were green glass and textiles.

Overall, recycling has leveled out in South Carolina. The recycling rate manages to keep pace with the growth in South Carolina. But in order to reach the goals by FY05, mandatory measures such as banning certain materials from the landfill or requiring industry to report their recycling and waste reduction efforts need to be in place to achieve that goal. Also, public education and funding are critical to this effort. While much has been accomplished, much more remains to be done to reach the state's recycling and waste reduction goals.



Commodities

This section highlights the commodities that make up municipal solid waste (MSW) as defined by the U.S. Environmental Protection Agency. These commodities also form the basis for many of the state's recycling programs.

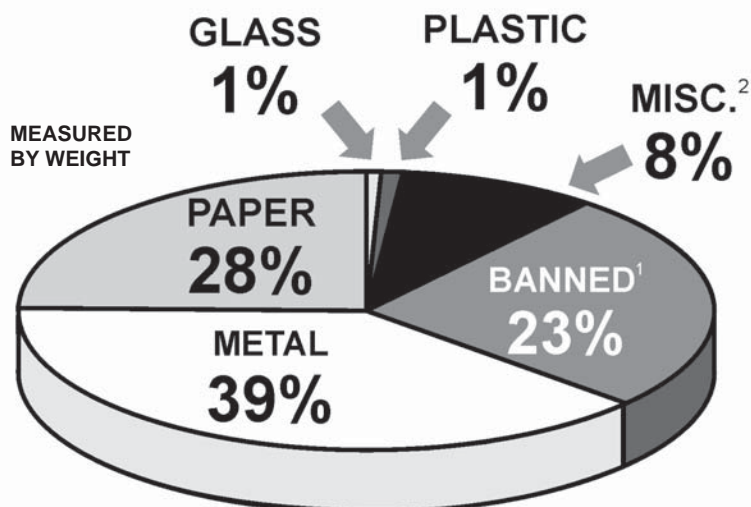
For each commodity, a definition and description are given, the recycling tonnages are provided for the past 11 fiscal years and a comparison of the amount recycled in Fiscal Year 2003 (FY03) and FY02 is made. In addition, a chart showing the average price received for each commodity or subgroup in FY03 is provided. Various factors – quantity, quality, location and transportation – determine market prices.

For the first time, pricing information was obtained from the annual reports submitted by counties. Between 10 and 15 counties, depending on the particular commodity, shared information on the revenue generated by selling their recyclables. In past issues, historical pricing information had been obtained from "Waste News," a weekly publication that covers solid waste issues.

Of the six categories that make up MSW (glass, metal, paper, plastic, banned items and miscellaneous items), only one saw an increase from the year before. Metals increased 52 percent over FY02. Every other category had a decrease, ranging from 2 to 36 percent.



CHART E: Recyclables Collected in South Carolina by Percentage*



1. Banned items include the following: appliances; lead-acid batteries; waste tires; yard waste; and land-clearing debris. While used oil also is a banned item, it is not considered MSW and as such used oil recycling is measured separately.

2. Miscellaneous items include: antifreeze; consumer electronics; cooking oil; fluorescent bulbs; food waste (post-consumer only); hazardous household materials; latex paint; mattresses; textiles; used oil filters and bottles; wood packaging; other wood (such as furniture and cabinets); and other non-packaging products.

*SOURCE: FY03 S.C. Solid Waste Management Annual Report

Glass

For recycling purposes, **GLASS** is defined as containers like bottles and jars for drinks, food, cosmetics and other products. When recycled, container glass usually is separated into colors for conversion into new containers, construction materials or fiberglass insulation.

For glass recycling, FY03 reflected a 4 percent decrease from the year before, collecting 9,430 tons for recycling. This commodity continues to see decreased production (companies are switching to plastic) as well as marketability issues with green glass in particular. In addition, the number of counties reporting glass also dropped from 35 in FY02 to 31 in FY03. This includes one county that dropped glass completely from its recycling program due to poor market conditions and quality control.

Glass typically is marketed as cullet and separated by color – clear, brown and green. But in some cases, all three colors are collected together and that glass is marketed as “mixed.” In FY02, the report noted a “color separation” process that would provide local governments with additional markets for mixed glass.

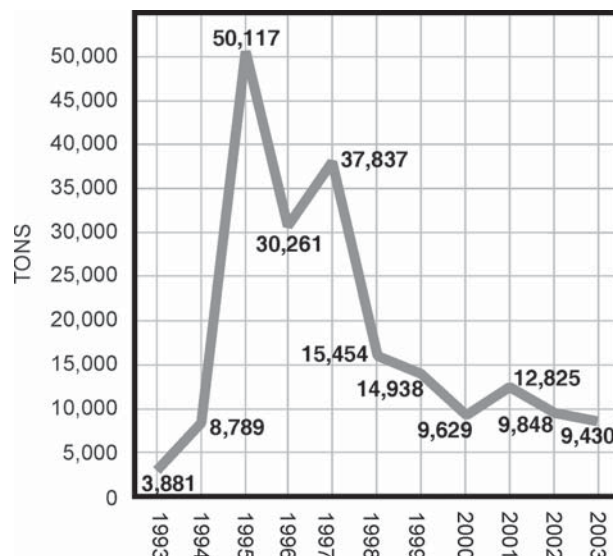
Here's another note of interest. Ninety-eight percent of all glass recycled comes from the residential programs throughout South Carolina – whether curbside or drop-off.

The tonnages collected of the three colors appears to be directly related to market value as seen in Chart 3. Green glass continues to be a difficult commodity to market. One reason for this difficulty is because there are no major food or beverage companies in the Southeast that use green glass containers. The difficulty in marketing green glass also may reduce the price counties receive for brown and clear glass. Counties, for example, will sell their clear and brown glass for less just for the vendor to take their green glass.

* SOURCES: FY93 to FY03 S.C. Solid Waste Management Annual Reports

** SOURCE: From a survey compiled by DHEC's Office of Solid Waste Reduction and Recycling

CHART 1: Glass Collection Figures by Year*



NOTE: All three colors are combined for the total amount.

CHART 2: Total Glass Collected in Tons*

	FY03	FY02	+/-
Brown	2,152	2,161	-9
Clear	2,713	3,103	-390
Green	1,339	2,253	-914
Mixed	3,226	2,331	+895
TOTAL	9,430	9,848	-418

CHART 3: Glass Prices by Type**

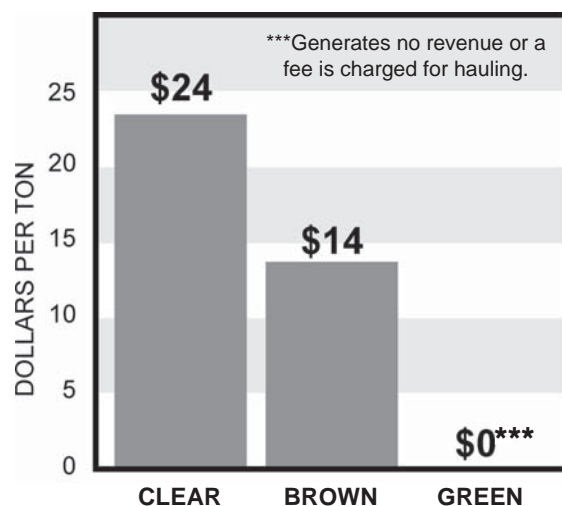


CHART 4: Metal Collection Figures by Year*

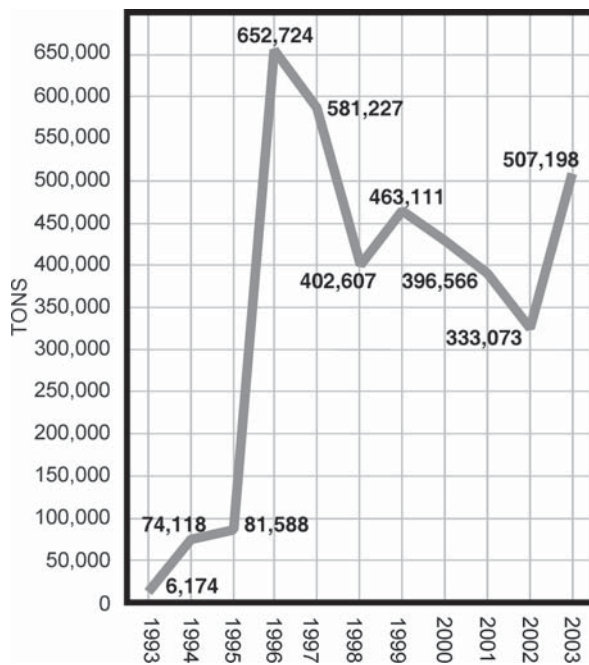
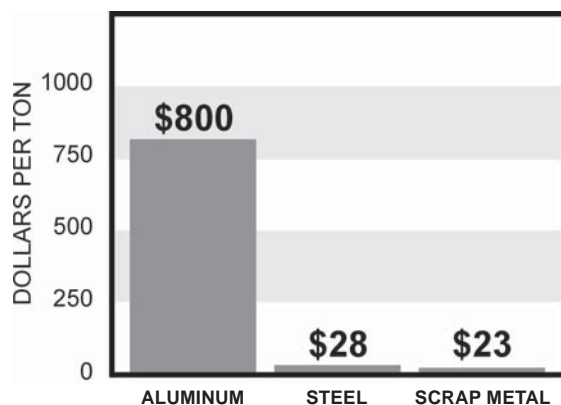


CHART 5: Total Metal Collected in Tons*

	FY03	FY02	+/-
Aluminum	15,653	4,211	+11,442
Steel	13,357	19,914	-6,557
Ferrous	143,610	205,174	-61,564
Non-ferrous	9,939	25,699	-15,760
Other or Scrap	97,275	52,389	+44,886
Mixed Metal	178,034	19,243	+158,791
All Metal	49,330	6,443	+42,887
TOTAL	507,198	333,073	+174,125

CHART 6: Metal Prices by Type**



Metal

FERROUS METALS are magnetic and are derived from iron or steel; products made from ferrous metals include appliances, furniture, containers and packaging like steel drums and barrels. Recycled products include tin/steel cans, strapping and metals from appliances into new products.

NON-FERROUS METALS are non-magnetic metals such as aluminum, lead and copper. Products made, all or in part, from such metals include containers, packaging, furniture, appliances, electronics and aluminum foil.

Metal was the only commodity that saw an increase from FY02, jumping 52 percent to 507,198 tons of scrap metal recycled in FY03. A significant portion of that tonnage, however, came from a single company in one county. Because industry figures that are reported are kept confidential, it is not clear if this was a single, one-time event or if it will be an on-going effort that can be tracked from year to year.

This amount impacts both the metal recycling rate and South Carolina's overall recycling rate.

Again, as with many other commodities, there was no change in the residential category, despite 39 counties collecting some kind of metal versus 40 the year before.

Also, the subcategory "mixed metals" saw the largest increase, which could reflect how this material is being marketed.

And finally, the amount of steel collected in FY03 made it the top recycled commodity – ahead of paper, which is typically ranked No. 1 in weight both statewide and nationally. Chart 6 reflects some of the market prices received for metals in South Carolina. It should be noted that aluminum is sold in pounds, earning 40 cents per pound, but for consistency and comparison it was converted to dollars per ton. Although representing only 10 percent of the total, there was relatively no change to the residential category in scrap metal recycling.

* SOURCES: FY93 to FY03 S.C. Solid Waste Management Annual Reports

** SOURCE: From a survey compiled by DHEC's Office of Solid Waste Reduction and Recycling

Paper

In the recycling business, **PAPER** refers to products and materials including newspapers, magazines, office papers, corrugated containers, bags and some paperboard packaging that can be recycled into new paper products.

For the fifth year in a row, the amount of paper recycled decreased. The amount recycled in FY03 was 372,526 tons – nearly 15 percent less from FY02 – although the number of counties collecting paper increased from 39 to 40 in FY03. This does not assume those counties collect all types of paper. For some, the only material collected in the paper category is newspaper or cardboard and nothing else.

Perhaps one reason for the significant decline over the past several years is because we are becoming more of a paperless society with Web sites, e-mail and instant messaging as an alternative to the traditional communication tools of fliers, letters and brochures. Therefore, the amount of paper available for recycling has decreased, leading to a reduction in tonnages collected.

Paper encompasses many categories including cardboard. Despite prices rebounding in FY03, cardboard had the largest decrease, dropping 43,000 tons from FY02. This certainly impacts a local government's recycling program because cardboard is a solid revenue generator when baled and kept dry. Even the total for newspaper decreased. A few counties noted that when newspaper gets wet, it creates a need for disposal because it is no longer marketable.

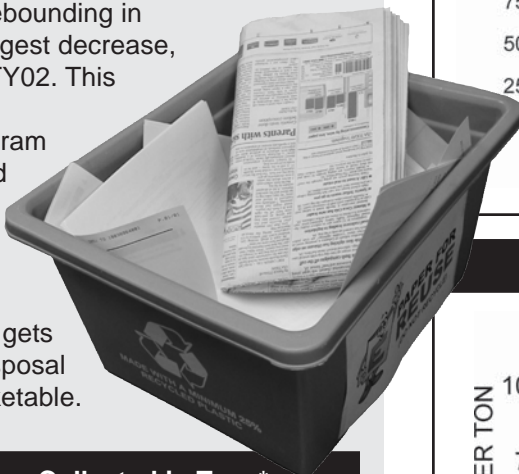
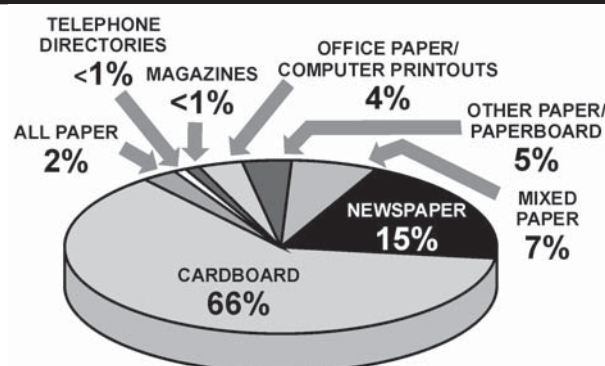


CHART 9: Total Paper Collected in Tons*

	FY03	FY02	+/-
Cardboard	245,398	288,747	-43,349
Magazines	2,235	8,026	-5,791
Newspaper	56,227	64,824	-8,597
Office Paper	16,173	14,225	+1,948
Mixed Paper	26,370	40,993	-14,623
Telephone Directories	210	479	-269
Other Paper	19,437	21,465	-2,028
All Paper	6,476	45	+6,431
TOTAL	372,526	438,804	-66,278

CHART 7: Types of Paper Recycled*



NOTE: The total amount of MSW paper recycled in FY 2003 was 372,526 tons. This chart is a breakdown of that total (measured by weight).

CHART 8: Paper Collection Figures by Year*

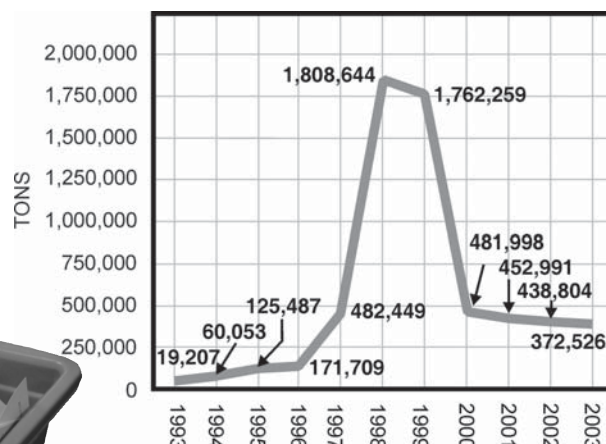
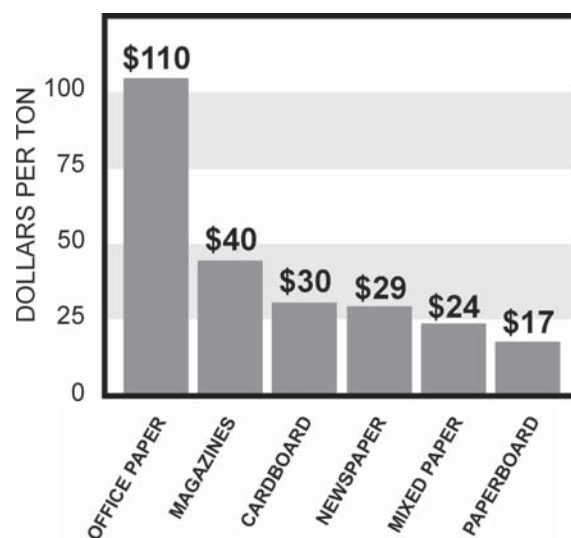
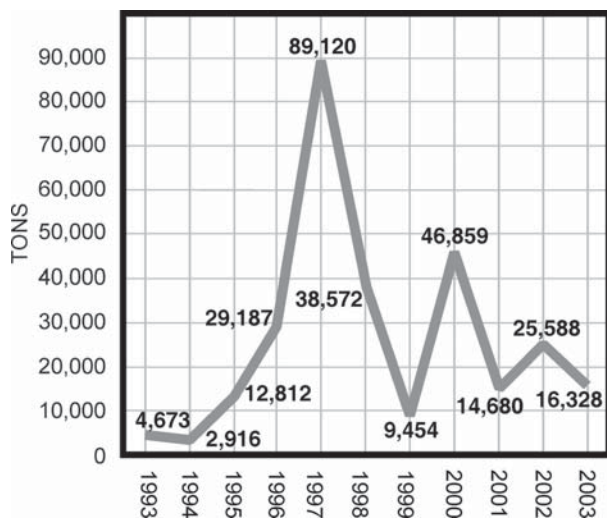


CHART 10: Paper Prices by Type**

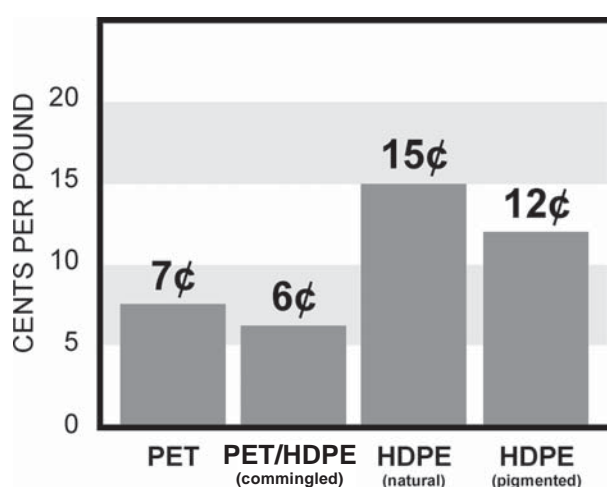


* SOURCES: FY93 to FY03 S.C. Solid Waste Management Annual Reports

** SOURCE: From a survey compiled by DHEC's Office of Solid Waste Reduction and Recycling

CHART 11: Plastics Collection Figures by Year***CHART 12: Total Plastics Collected in Tons***

TYPE	FY03	FY02	+/-
① PET	2,144	10,693	-8,549
② HDPE	3,418	2,896	+522
② HDPE (Oil Bottles)	124	0	+124
PET and HDPE (Commingled)	2,699	2,646	+53
③ V	412	1,015	-603
④ LDPE	603	918	-315
⑤ PP	1,451	1,932	-481
⑥ PS	477	241	+236
⑦ Other	3,654	4,572	-918
All Other	1,346	675	+671
TOTAL	16,328	25,588	-9,260

CHART 13: Plastics Prices by Type**

Plastic

PLASTIC refers to containers and packaging made from various resins but does not include the plastic in automobiles and construction products (PVC piping). Two types of plastic, PET (Polyethylene Terephthalate) and HDPE (High Density Polyethylene), are the most commonly recycled plastic in the state. Little wonder: about 95 percent of all the plastic bottles produced are made from PET and HDPE.

PET, also known as PETE, is used to make soft drink, water and mouthwash bottles. It can be identified by the ♻️ symbol found on the bottom of these containers. HDPE typically is used to make jugs for milk and liquid laundry detergents as well as bottles for shampoos and other products. It can be identified by the ♻️ symbol found on the bottom of these containers.

Some counties recycle other plastic resins including: Vinyl ♻️ (Polyvinyl Chloride or PVC) used in clear food packaging and medical tubing; LDPE ♻️ (Low Density Polyethylene) used in bread, dry cleaning and frozen food bags and squeezable bottles; PP ♻️ (Polypropylene) used in yogurt cups and margarine tubs; PS ♻️ (Polystyrene) used in grocery store meat trays and egg cartons; and Other ♻️ that contains a combination of the first six types of plastic. Examples of ♻️ include reusable water bottles and ketchup bottles.

The recycling rate for plastic has fluctuated for the past several years. During FY03, the amount of plastic recycled decreased nearly 40 percent from FY02. In fact, sharp increases in FY00 and FY02 are attributed to one-time efforts by industry impacting the trend. It may be more helpful to look at FY01 for comparison showing a slight increase from 14,680 to more than 16,000 tons. The residential category showed a significant increase of more than 11 percent.

Currently, 26 of the 46 counties collect plastic bottles and jugs (① and ②) and 12 counties that collect all plastics (① to ⑦). See Chart 12 for the amount of plastic recycled by type and a comparison of the totals recycled during FY02.

* SOURCES: FY93 to FY03 S.C. Solid Waste Management Annual Reports

** SOURCE: From a survey compiled by DHEC's Office of Solid Waste Reduction and Recycling

Banned and Miscellaneous Items

BANNED ITEMS are those that cannot be disposed of in South Carolina's MSW landfills by law. These include lead-acid batteries, tires, large appliances (also known as white goods), yard waste and land-clearing debris. While used motor oil also is a banned item, it is not considered MSW and is measured separately.

While banned items are not usually collected in curbside programs, most can be taken to county drop-off centers for recycling or taken back to the retailer when new products are purchased. Chart 14 shows a breakdown of the tonnages recycled for each commodity in FY02 and FY03.

With the exception of yard waste and land-clearing debris, there are advance recycling fees associated with banned materials. When consumers buy oil, new tires, refrigerators (or other large appliances) and car batteries, they pay a small fee that is set aside in a Solid Waste Trust Fund designed to help pay for recycling programs across South Carolina. These fees have helped develop the curbside and drop-off collections sites located throughout the state as well as help defray the cost of processing these materials and fund on-going education programs.

MISCELLANEOUS ITEMS are considered non-traditional recycled materials that do not fit anywhere else in the annual report. These are items that counties recycle based upon local and sometimes unique markets.

CHART 14: Total Banned Items Collected in Tons*

	FY03	FY02	+/-
Lead-acid Batteries	7,101	10,512	-3,411
Waste Tires	29,774	43,836	-14,062
White Goods	36,399	39,745	-3,346
Yard Waste and Land-clearing Debris	235,210	250,822	-15,612
TOTAL	308,484	344,915	-36,431

CHART 15: Total Miscellaneous Items Collected in Tons*

	FY03	FY02	+/-
Antifreeze	746	436	+310
Consumer Electronics	134	212	-78
Cooking Oil	52	0	+52
Fluorescent Tubes	1,105	1,563	-458
Food Waste (post-consumer only)	3,426	2,900	+526
Hazardous Household Materials	21	2,062	-2,041
Latex Paint	116	647	-531
Mattresses	32	14	+18
Textiles	54,629	50,851	+3,778
Toner Cartridges	0	5	-5
Used Oil Bottles	6**	104	-98
Used Oil Filters (if not included as scrap metal)	812	636	+176
Wood Packaging	25,906	43,258	-17,352
Other Wood	17,168	3,418	+13,750
TOTAL	104,153	106,106	-1,953

**Most used oil bottles were reported as ♻ plastic (see Chart 12 on page 11). An additional 124 tons of used oil bottles were collected in FY03.

* SOURCES: FY02 and FY03 S.C. Solid Waste Management Annual Reports

State Summary

Although South Carolina's recycling tonnages increased 4 percent since Fiscal Year 2002 (FY02), it also should be noted that collection in local government residential recycling programs (both curbside and drop-off centers) decreased 12 percent from FY02. Many county solid waste directors and recycling coordinators cite that the lack of funds and budget constraints directly impacted their recycling efforts.

FY03	TONS	+/- IN TONS FROM FY02	PERCENT CHANGE
State Recycling Effort*	1,318,119	+55,788	+4
Residential Programs Only	346,699	-46,958	-12

*Defined Municipal Solid Waste (MSW)

Waste Reduction and Recycling Efforts and Goals

The six largest counties ranked by population – Greenville, Richland, Charleston, Spartanburg, Lexington and Horry – represent 45 percent or 604,437 tons of the total amount of MSW recycled in South Carolina in FY03.

The information in Chart F shows that a county with a large population doesn't necessarily recycle more (e.g., compare Richland County with Greenville County). The information in Chart G shows that a county meeting both waste reduction and recycling goals may not significantly impact the state's overall recycling rate.

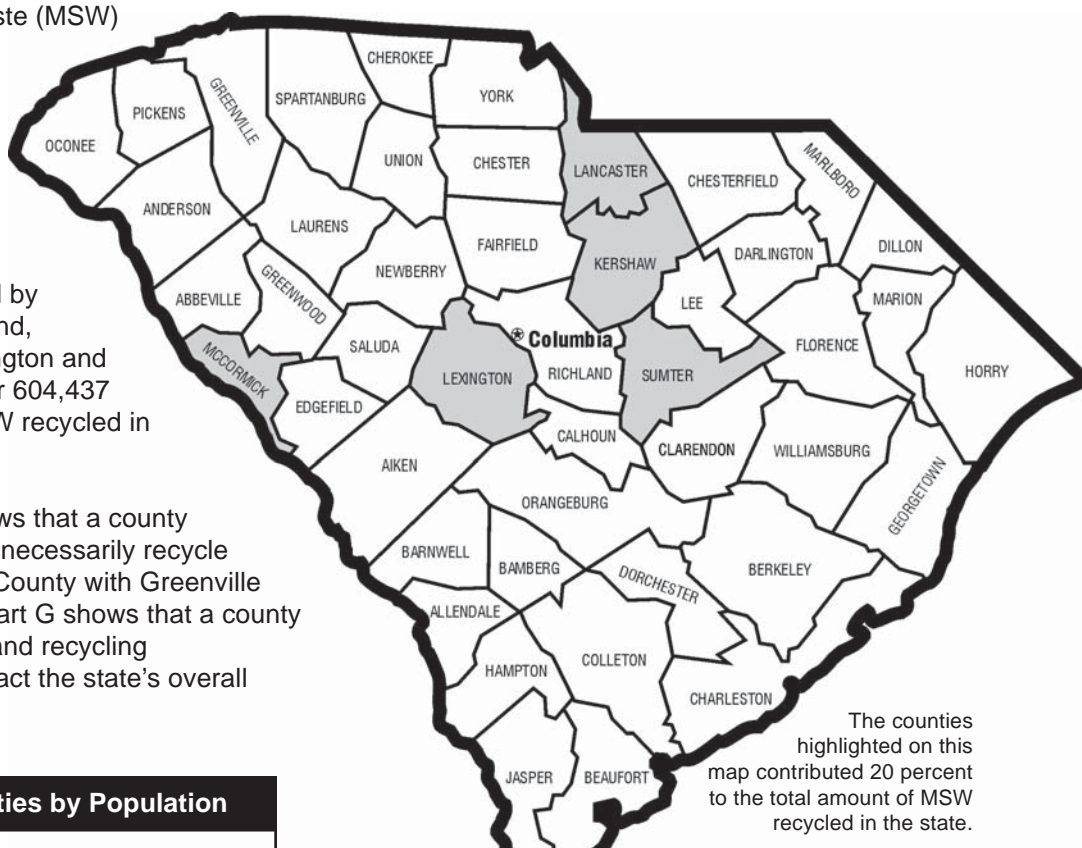


CHART F: Top S.C. Counties by Population

COUNTY	PERCENT OF STATE'S POPULATION	PERCENT OF STATE'S OVERALL RECYCLING
1. Greenville	9.5%	20%*
2. Richland	8.0%	1%
3. Charleston	7.7%	9%
4. Spartanburg	6.3%	4%
5. Lexington	5.4%	7%
6. Horry	5.0%	4%

CHART G: S.C. Counties That Met Both Waste Reduction and Recycling Goals:

COUNTY	PERCENT OF STATE'S POPULATION	PERCENT OF STATE'S OVERALL RECYCLING
Kershaw	1.3%	1%
Lancaster	1.5%	4%
Lexington	5.4%	7%
McCormick	0.7%	0.2%
Sumter	2.5%	8%

County Recycling at a Glance

Chart H provides a county-by-county breakdown of municipal solid waste (MSW) disposal and recycling. Recycling rates are listed by percentage and tons by county as well as by pounds per person per day (p/p/d). The total amount of MSW disposed also is listed in tons by county and also by p/p/d.

CHART H: MSW Recycling and Disposal Data by County*

County	MSW Recycling Rate	MSW Recycled p/p/d	MSW Disposed p/p/d	MSW Recycled in Tons	MSW Disposed in Tons	County	MSW Recycling Rate	MSW Recycled p/p/d	MSW Disposed p/p/d	MSW Recycled in Tons	MSW Disposed in Tons
Abbeville	17.2%	0.7	3.6	3,602	17,334	Greenwood	63.3%	7.1	4.2	88,149	51,185
Aiken	24.2%	1.0	3.3	27,519	86,192	Hampton	18.7%	1.1	4.7	4,189	18,214
Allendale	8.7%	0.3	3.2	616	6,450	Horry	23.3%	1.7	5.5	62,789	206,771
Anderson	21.3%	1.2	4.4	37,152	136,896	Jasper	20.0%	1.1	4.4	4,215	16,838
Bamberg	3.8%	0.2	3.4	405	10,182	Kershaw	37.4%	1.9	3.1	18,182	30,494
Barnwell	24.8%	1.2	3.6	5,071	15,388	Lancaster	61.0%	4.2	2.7	47,966	30,663
Beaufort	20.4%	1.4	5.7	33,761	132,076	Laurens	32.0%	1.9	3.9	23,716	50,422
Berkeley	28.4%	1.3	3.1	32,989	83,018	Lee	0.6%	0.0	3.1	67	11,597
Calhoun	10.0%	0.2	2.5	765	6,892	Lexington	38.7%	2.2	3.5	89,717	141,964
Charleston	29.7%	2.1	4.9	119,824	283,263	Marion	32.1%	0.7	1.5	4,484	9,468
Cherokee	29.1%	1.9	4.5	18,271	44,445	Marlboro	9.3%	0.2	2.2	1,184	11,580
Chester	2.0%	0.1	3.7	471	23,347	McCormick	46.3%	1.7	2.0	3,221	3,731
Chesterfield	5.6%	0.1	2.0	932	15,836	Newberry	26.6%	2.1	5.7	13,921	38,456
Clarendon	8.4%	0.2	1.6	895	9,789	Oconee	34.5%	1.7	3.3	21,341	40,485
Colleton	4.1%	0.2	2.8	857	20,083	Orangeburg	44.0%	3.8	4.8	62,796	79,808
Darlington	16.1%	0.7	3.6	8,545	44,635	Pickens	27.1%	0.9	2.5	19,195	51,628
Dillon	0.0%	0.0	5.4	0	30,399	Richland	5.2%	0.3	4.8	15,964	289,645
Dorchester	33.6%	1.5	3.0	27,991	55,211	Saluda	16.3%	0.5	2.1	1,465	7,500
Edgefield	17.9%	0.6	2.8	2,742	12,570	Spartanburg	16.9%	1.1	5.3	51,258	252,141
Fairfield	4.5%	0.2	5.1	1,061	22,278	Sumter	64.3%	5.4	3.0	104,043	57,763
Florence	13.7%	0.8	5.5	20,117	127,201	Union	18.7%	0.5	2.1	2,596	11,290
Georgetown	17.5%	1.1	5.1	11,519	54,492	Williamsburg	8.0%	0.2	2.6	1,518	17,410
Greenville	36.4%	3.7	6.5	264,885	462,322	York	18.6%	1.0	4.1	29,856	130,821

CHART I: South Carolina MSW Generation, Disposal and Recycling Data*

Total MSW Generated	4,578,297 tons	MSW Recycling Rate**	28.79 percent
Total MSW Disposed	3,260,168 tons	MSW Recycled Rate	1.75 p/p/d
Total MSW Recycled	1,318,119 tons	MSW Disposal Rate**	4.35 p/p/d

*SOURCE: FY03 S.C. Solid Waste Management Annual Report

**The state's MSW recycling goal is 35 percent by FY05; the MSW reduction goal is to reduce the amount of MSW disposed of to 3.5 p/p/d by FY05.

Unique Programs

A Sampling of Programs Used by Local Governments to Reach Residents and Increase Recycling

ANDERSON COUNTY

- Anderson County built an environmental education center that includes an outdoor classroom and meeting space (a recycled air station building that was moved from the airport) – complete with a recycling educator position.
- Anderson County used recycled tire shreds and chips in building an elaborate sports and entertainment facility that includes a stage, retaining walls and walking trails.

BERKELEY AND DORCHESTER COUNTIES

- Berkeley and Dorchester counties are working together to develop public service announcements to promote recycling by residents.

CHARLESTON COUNTY

- Charleston County sponsors a “Trim Your Waste Day” every January 2. As part of the event, the county collects Christmas trees and electronics and gives away mulch.
- Charleston County holds school art contests to promote recycling – including T-shirt decorating and sculpture building.

CHEROKEE COUNTY

- Cherokee County implemented a recycling contest among the 17 schools in the county. Awards are given to schools that recycle the most and to individual students who have the most recycled in their name at the county’s recycling center.

COLLETON COUNTY

- Colleton County – led by the county administrator and solid waste department in conjunction with DHEC – held a training session for all convenience center attendants. The training was designed to educate attendants about recycling and improve their customer service skills.

DORCHESTER COUNTY

- Dorchester County developed the “Recycling Troopers” program. As part of the program, elementary school students patrol the schools and

ticket the teachers of classrooms that are not recycling or are not recycling properly.

GREENVILLE COUNTY

- Greenville County used movie theater advertising to promote all-plastic bottles recycling.
- Greenville County is South Carolina’s host for Nike’s Reuse-A-Shoe Program – a project of the National Recycling Coalition.

OCONEE COUNTY

- Oconee County added signage in Spanish for its recycling center containers.

PICKENS COUNTY

- Pickens County used dashboard-mounted cameras in patrol cars to estimate curbside recycling participation rate. County council members were then asked to encourage recycling by non-participating residents in their area.
- Pickens County sponsors quarterly field trips to recycling processors for their recycling center attendants.

THREE RIVERS SOLID WASTE AUTHORITY (SWA)

- Three Rivers SWA (representing Aiken, Allendale, Bamberg, Barnwell, Calhoun, Edgefield, McCormick, Orangeburg and Saluda counties) held a community fair as part of the opening ceremony for its new landfill. The fair promoted recycling in an effort to prolong the landfill’s life.

UNION COUNTY

- Union County set up a paper recycling program at the Union Post Office. Postal employees recycle excess fliers and bulk mail items.

YORK COUNTY

- York County and the City of Rock Hill’s Clean & Green Program – in partnership with the York County Museum – established an extensive network of environmental education liaisons. The liaisons promote waste reduction and recycling as well as other environmental issues in schools.

Used Oil Recycling in South Carolina

A record amount of used oil was recycled in calendar year 2002 by do-it-yourself oil changers (DIYers) in South Carolina according to the most current figures compiled by DHEC's Office of Solid Waste Reduction and Recycling (Office).

DIYers recycled 1,160,865 gallons of used oil in 2002, the 12th consecutive year a record amount was collected and the fourth straight year that more than 1 million gallons were collected. Since the program began in 1990, DIYers have recycled more than 9 million gallons of used oil. Used oil currently is collected at more than 700 sites throughout the state.

South Carolina continues to have one of the nation's best and most comprehensive used oil recycling programs targeted at DIYers. In addition to recycling used oil, many counties collect and recycle used oil filters and bottles from DIYers.

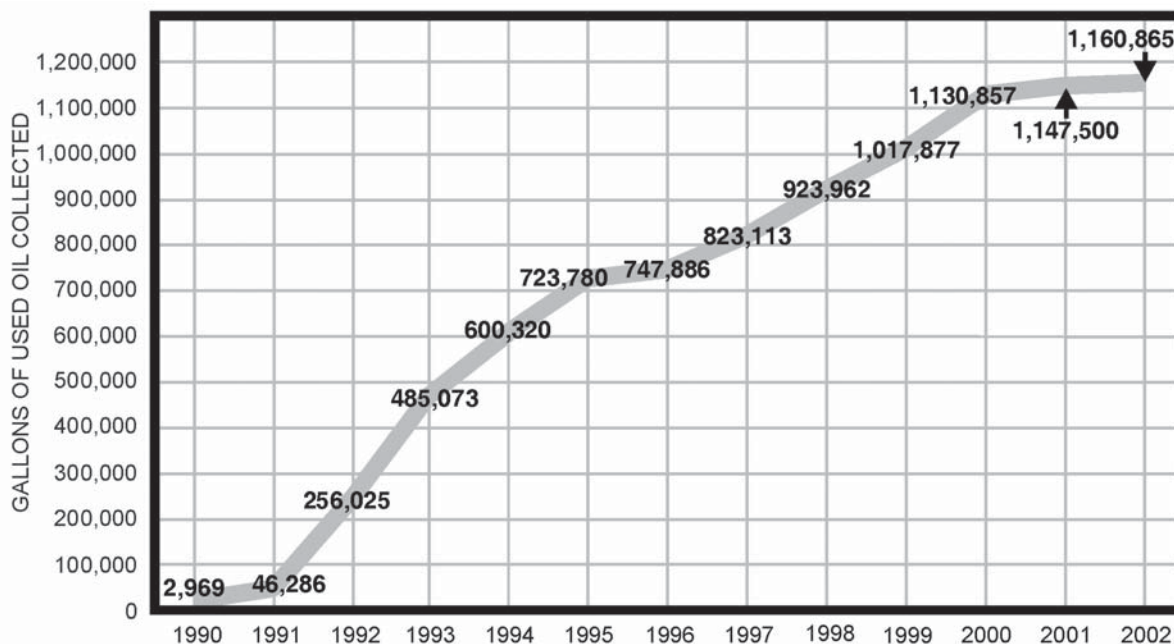
The Office encourages counties to establish farmer oil collection tanks as well as oil/gasoline mixture tanks. Farmer oil collection tanks are designed to accept the larger quantities of oil that farmers generate.

Since the program began in 1998, 14 farmer oil tanks have been set up in 11 counties. Oil/gasoline mixture tanks are designed to accept oil, gasoline and oil/gasoline mixtures. Eighteen oil/gasoline mixture collection sites have been established in 16 counties.

Introduced in January 2000, the Green Driver Project targets students in high school driver education classes. The Project is based on classroom presentations that stress the environmental impact of driving and includes information on recycling used oil, filters and bottles, energy conservation, ground-level ozone prevention and other environmental tips. The centerpiece of the presentation is "DHEC1: Behind the Oil Change." A parody of "VH1: Behind the Music," the video chronicles the rise, fall and redemption of a teenager who was an environmental champion, but is caught dumping used oil in a storm drain.

The Project provides a timely lesson on environmentally responsible driving just as students are beginning to drive. Since the Project began, staff have made more than 500 classroom presentations to 21,500 students and others.

CHART J: Used Oil Collected in South Carolina from 1990-2002*



*SOURCE: Used Oil Collection and Recycling in South Carolina 2002 Annual Report

NOTES: Used oil is not considered municipal solid waste and as such used oil recycling is measured separately. Used oil recycling sites are required by law to be registered with the state. Collection figures were taken from reports compiled and provided by Santee Cooper and DHEC's Office of Solid Waste Compliance. Figures for calendar year 2003 were not available when this document was printed.

State Agency/College and University Recycling Programs

The S.C. Solid Waste Policy and Management Act (Act) became law on May 27, 1991. The Act outlined a comprehensive approach to solid waste management that included setting waste reduction and recycling goals and requiring local governments to keep track of and report to DHEC the amount of municipal solid waste generated and recycled.

The Act was amended October 3, 2000 to require state agencies as well as colleges and universities to measure waste reduction, recycling and buying recycled activities and report those activities by September 15 each year to DHEC. In turn, DHEC is required to compile all of the reports into one

comprehensive report and submit it to the Governor and Legislature by November 1 each year. DHEC's Office of Solid Waste Reduction and Recycling (Office) is charged with compiling this data and publishing a report.

Seventy-one state agencies as well as 30 colleges and universities were sent a one-page reporting form for the Fiscal Year 2003 (FY03) annual report. Sixty-four state agencies and all 30 of the state's colleges and universities completed and returned the form.

State agencies reported recycling 177,525 tons of material while colleges and universities reported recycling 3,944 tons of material in FY03 for a total of 181,469 tons. In addition, state agencies reported that 14.6 percent of their purchases (measured in total dollar amount) were for recycled content products. Colleges and universities reported about 14.5 percent of their purchases were for recycled content products.

CHART K: Recyclables Collected by S.C. Colleges/Universities and State Agencies

Colleges/ Universities	Tons Collected	State Agencies	Tons Collected
Aluminum	0.28	Aluminum	322.00
Aluminum Cans	19.23	Aluminum Cans	20.35
Antifreeze	1.06	Antifreeze	1,018.41
Books	14.51	Books	6.13
Cardboard	911.97	Cardboard	1,158.54
Cell Phones	0.00	Cell Phones	0.08
Computers	163.17	Computers	4.67
Fluorescent Lights	24.03	Fluorescent Lights	5.60
Glass	38.92	Glass	1.20
White Paper	83.35	White Paper	784.64
Lead-acid Batteries	31.03	Lead-acid Batteries	97.14
Magazines	25.92	Magazines	16.85
Mixed Paper	1,624.55	Mixed Paper	2,128.65
Newspaper	114.13	Newspaper	79.74
Office Equipment	7.75	Office Equipment	4.63
Oil	34.46	Oil	1,613.74
Oil Filters	1.84	Oil Filters	27.60
Other	249.81	Other	166,291.53
Pallets	79.89	Pallets	85.89
Paperboard	0.00	Paperboard	1.75
Phone books	28.67	Phone books	51.43
Plastic	11.85	Plastic	8.10
Rechargeable Batteries	0.15	Rechargeable Batteries	11.46
Scrap Metal	469.73	Scrap Metal	1,318.87
Steel Cans	7.49	Steel Cans	2,465.69
TOTAL	3,943.79	TOTAL	177,524.69

Twenty-five categories of recyclables were measured (see Chart K). Miscellaneous (Other) items were the top recyclables reported by state agencies totaling 166,292 tons. Mixed paper was the top recycled commodity for colleges and universities totaling 1,625 tons. Numbers provided for buying recycled content products are best estimates. As outlined in the buying recycled section of the "State Agencies/Colleges and Universities Waste Reduction, Recycling and Buy Recycled FY03 Annual Report," no consistent, accurate methods exist yet to measure these efforts. Excluding fly ash recycled by Santee Cooper, the total amount of material recycled by state agencies dropped 269 tons from FY02 to FY03. The total amount of material recycled by colleges and universities increased 993 tons during the same time.

The Office, in partnership with the S.C. Department of Commerce and others, developed the S.C. Resource Conservation Challenge (SCRCC). SCRCC was created to find new and improved ways for state agencies, colleges and universities, schools and school districts to conserve natural resources, protect the environment and perhaps save money in the process. SCRCC, modeled after the U.S. Environmental Protection Agency's Resource Conservation Challenge, was customized for South Carolina to include beginning, improving and implementing programs on waste reduction, recycling, sustainable development and energy conservation.

South Carolina's Waste Reduction, Recycling Time Line for FYs 1991-2003

DHEC's Office of Solid Waste Reduction and Recycling (Office) provides educational programs, technical assistance and grant funding to local governments, schools, colleges/universities and the public regarding solid waste issues. The following is a time line of important events, initiatives and projects coordinated through the Office from Fiscal Year 1991 (FY91) to FY03:

FISCAL YEAR 1991

- The S.C. Solid Waste Policy and Management Act of 1991 (Act) creates the Office. The Act also sets a recycling goal of 25 percent and a waste reduction goal of 30 percent, both calculated by weight, to be met by FY97.

FISCAL YEAR 1992

- A toll-free number (1-800-768-7348) is established for South Carolinians to call and receive recycling information.
- The S.C. Used Oil Partnership is created and includes the following members: S.C. Department of Transportation, DHEC, Santee Cooper and the S.C. Petroleum Council. The mission of the partnership is to target do-it-yourself oil changers (DIYers) on the importance of proper collection and recycling of oil.

FISCAL YEAR 1993

- Grant regulations become effective in April that allow the dispersal of funds collected from advanced recycling fees on tires, appliances, lead-acid batteries and used oil. These fees assist local governments and schools with recycling programs.
- About 87,557 tons of materials are collected for recycling according to reports provided by county governments and compiled by DHEC.
- Pilot sessions are underway for a K-12 environmental curriculum.

FISCAL YEAR 1994

- "Action for a cleaner tomorrow: An Environmental Curriculum Supplement" ("Action") is presented to

teachers, schools and groups across South Carolina.

- Environmental education grant program that targets schools begins. The Office provides \$146,000 in grant funding to 137 schools.

FISCAL YEAR 1995

- The Office awards seven grants to hold collections for hazardous household materials.
- The first Recycling Coordinators (RC) Workshop sponsored by the Office is held. More than 75 people attend what will become an annual workshop.
- The Recycle Guys Awards Program is held for the first time to honor the top recycling programs, projects and people in South Carolina.
- Work begins to update state contracts to encourage used oil filter recycling.

FISCAL YEAR 1996

- NASCAR driver Jeff Gordon agrees to be the spokesperson for South Carolina's used oil recycling program.
- "Code Green" – a weekly segment offering environmental tips for viewers on local NBC affiliate WIS-TV – is created. It airs each Saturday morning during the local news broadcast.
- The Closed Loop Tire Grant begins allowing local governments to apply for funds for the purchase of goods made from recycled tires.

FISCAL YEAR 1997

- The Recycle Guys Public Awareness Campaign, featuring seven characters of the Office logo, premieres with three 30-second public service announcements (PSAs) that air statewide on television.
- Staff organizes a compost bin distribution program that allows cities and counties to offer plastic bins to their residents to promote waste reduction.
- The Office, serving as the contact for South Carolina, joins the America Recycles Day

campaign, setting aside each November 15 to celebrate the importance of recycling and buying products made from recycled materials.

- The Automobile Dismantler Waste Tire Grant is implemented to assist counties that handle tires from salvage yards.

FISCAL YEAR 1998

- The S.C. Partnership on Plastics Recycling is formed to target ways to improve overall plastics recycling in the state. A workshop is held with one of its partners – the American Plastics Council.
- The first Energy 2 Learn Summer Workshop is held in Columbia. Teachers are trained on “Action” and receive additional information on energy conservation. More than 200 teachers attend.
- Gypsum wallboard recycling project begins with Mungo Inc., a Columbia-based homebuilder.
- The Office’s Web page premieres.

FISCAL YEAR 1999

- “Action” is redesigned and edited for use on an interactive CD-ROM that is funded by the U.S. Postal Service, Greater South Carolina Cluster.
- The Buy Recycled Statewide Awareness Campaign kicks off and includes television and radio PSAs, contests, workshops and a new display. The overall program is funded by a U.S. Environmental Protection Agency (U.S. EPA) grant.
- The Office offers a \$50,000 grant to local governments to set up a center dedicated to the proper management of Hazardous Household Materials.

FISCAL YEAR 2000

- The Green Driver Project – a program targeting high school driver education classes – begins. It comprises a presentation by Office staff, a lesson from “Action,” and a video, also created by the Office. The video “Our World” summarizes the harm that can occur from the improper handling of used oil.
- The CD-ROM of “Action” wins the White House Closing the Circle Award.
- To date, the Recycle Guys Public Awareness Campaign has received extensive recognition including national Telly awards and local ADDY and MERCURY awards.

FISCAL YEAR 2001

- DHEC adopts a new formula to calculate the state recycling rate that measures just the municipal solid waste (MSW) stream and not the total waste stream. The goal of the new formula is to provide consistency in measurement according to U.S. EPA standards.
- An updated CD-ROM version of “Action” is developed and includes new features such as a tutorial for teachers, a search engine and a special student section with Web links, PSAs and video. “Action” also is correlated to the S.C. Science Standards.
- The Office offers three compost schools for solid waste directors and recycling coordinators.
- The Asphalt Rubber Technology Service (ARTS) is created with the mission to design, test and promote the use of scrap tires in rubberized asphalt and other civil engineering applications. ARTS, funded by an Office grant, is a partnership with Clemson University, the City of Clemson and the Office.
- The Business Recycling Assistance Program (B-RAP), a collaborative partnership between the Office, DHEC’s Center for Waste Minimization and the Recycling Market Development Advisory Council, is set up to provide technical assistance to business, industry, trade associations and others on waste reduction, recycling, buying recycled and market development. All of this is provided confidentially and free of charge.
- As required by the Act, for the first time state agencies, colleges and universities report waste reduction, recycling and buying recycled activities to DHEC.
- Retiring DHEC Commissioner Douglas E. Bryant is presented the first “Honorary Recycle Guy Award” for his support of recycling in South Carolina.

FISCAL YEAR 2002

- The U.S. EPA recognizes DHEC as WasteWise State Government of the Year, Endorser of the Year and names DHEC a Pilot Advocate State.
- The first Earth Camp is held for 48 rising fifth and sixth graders who are selected from hundreds of applications. The camp offers daily sessions on recycling, air, water, energy and forestry.

- A new video, "DHEC1: Behind the Oil Change" is completed and integrated into the Green Driver Project. To date, more than 10,600 students have participated in the program.
- To date, more than 7 million tires have been removed from illegal stockpiles around the state using grant funding provided by the Office.

FISCAL YEAR 2003

- The S.C. Resource Conservation Challenge is created. The Challenge, which is modeled after the U.S. EPA's Resource Conservation Challenge, is about new and improved ways for state agencies, colleges and universities and schools and school districts to conserve natural resources, protect the environment and perhaps save money in the process. The Challenge holds its first workshop in May 2003 and targets several environmental issues including waste reduction, recycling, buying recycled, energy conservation and sustainability.
- "Action" is thoroughly updated for the first time – providing all of the lessons with new backgrounds, creating a new glossary and correlating all of the lessons the state's language arts, mathematics and social studies standards.
- "Earth Today" is created. The half-hour program, which is a takeoff of the popular "Today Show," targets elementary and middle school students about a variety of environmental issues and airs throughout the state on South Carolina ETV stations and nationwide on PBS stations. Teachers are provided a pre- and post-test along with lessons built on the segments of the program at www.scdhec.gov/earthtoday.
- Almost nine tons of outdated electronic equipment is collected for recycling in a single-day collection event in the Columbia area. In another project, the Office in partnership with SMI Steel, holds five scrap metal collection events across the state in April.

DHEC's Office of Solid Waste Reduction and Recycling

DHEC's Office of Solid Waste Reduction and Recycling has developed a wide variety of technical assistance and environmental outreach projects and programs. Highlights include:

- **"Action for a cleaner tomorrow: A South Carolina Environmental Curriculum Supplement"** – "Action" is a national award-winning kindergarten through 12th grade activity-based interdisciplinary curriculum supplement that can serve as a starting place for introducing basic environmental education in the classroom;
- **The Recycle Guys Public Awareness Campaign** – "R-E-C-Y-C-L-E... it begins with you and me" is the opening line of the Office's national award-winning public service announcements (PSAs). These animated 15- and 30-second television PSAs, first broadcast in 1997, feature the Recycle Guys who began their career as the Office's logo in 1992. The campaign has been adopted by the states within the U.S. Environmental Protection Agency's Region IV as well as Arizona, Pennsylvania, the City of Denver and others;
- **The Recycle Guys Awards Program** – Each year, the Office honors South Carolina's top recycling programs, projects and people for outstanding and innovative achievements in recycling and waste reduction; and
- **Gardening and Recycling Organics Wisely (GROW)** – The GROW program provides a comprehensive approach to gardening, landscaping and waste reduction. GROW focuses on issues such as soil enrichment, naturescaping, native planting and smart watering.

For more information, call 1-800-768-7348 or visit www.scdhec.gov/recycle.

